

Does the public get the science media it deserves? PR professionals give their perspectives

Douglas Ashwell, Massey University, New Zealand, D.Ashwell@massey.ac.nz

Abstract

Science journalism is an area fraught with tensions and it is often blamed for the public's lack of scientific understanding. More often public relations (PR) professionals are involved with the dissemination of science information to the media and wider public. This paper reports the perceptions of New Zealand science journalism from the perspective of a small number of such professionals working in New Zealand scientific institutions. The findings suggest that the lack of tenure of science journalists combined with their limited resources threaten the watchdog role of the media with regard to science. Scientists still appear reluctant to engage with the news media and the reasons given for this are explored. Questions are also raised as to whether increasing the quantity and quality of science stories in the media will actually increase the understanding and constituency of New Zealanders who will engage and support science and finally areas for future research are suggested.

Overview

The public understanding of science (PUS) has been a matter of concern to governments worldwide. A number of governments have instigated policy initiatives to increase the public's understanding and engagement with science (Pennington, 2005; Wynne, 2006). In New Zealand, the establishment of the Science Media Centre is an example of this type of initiative. The Ministry of Research, Science and Technology (MoRST) in conjunction with the Royal Society of New Zealand created the Centre in an effort to further engage the New Zealand public with science and technology (Science Media Centre, 2010). Despite these types of efforts, policy makers and scientists still decry the public's lack of engagement with, and understanding of, scientific matters (Nisbet & Scheffele, 2009; Walker, 2011).

For most people, the media become their primary source of science information after they leave the formal education system (Hijmans, Pleijter, & Wester, 2003; Nelkin, 1995; Nisbet & Lewenstein, 2002). Subsequently the media are often blamed for the public's lack of scientific understanding (Bucchi & Mazziloni, 2007). While people come to understand science in a more complex manner than just what they see on television, hear on the radio or read in newspapers, the media are nonetheless an important source of information

(Ziman, 1991). Science journalism is an area fraught with tension, especially between journalists and scientists with the relationship being likened to a clash between two cultures (Peters, 1995; Salleh, 2001). There are a number of reasons for the clash between these two groups. First, scientists are often fearful that their science will be inaccurately reported or misrepresented. There have been a number of examples of such misreporting. For example, in New Zealand the premature reporting of Lyprinol, an extract from New Zealand green lipped mussels, as a possible cure for cancer caused harm to a number of “cancer sufferers by holding out false hope” (Comrie, 2000). Another reason is the barrier to the open communication between scientists and journalists, which is due to the scientific community doing little to reward scientists who inform the public of their work. Instead these scientists may be sanctioned for such actions (Dunwoody, 1986). Finally, scientists may be constrained in what they can speak about to the media, due to commercial considerations as scientific research is increasingly being funded by private interests (Ministry of Research, Science & Technology, 2004).

However, more often, public relations (PR) professionals, working for host organisations where scientists are employed, mediate the relationship between journalists and scientists. The importance of PR professionals to the science communication process has been increasing since the 1990s, with more PR professionals becoming involved with universities and with disseminating information on health and the biomedical sciences (Bauer & Gregory, 2007). However, the presence of these PR professionals could be detrimental to science journalism because of the influence they could wield over journalists pressured by the shortage of time and lack of resources (Gopfert, 2007). It is argued that these pressures could lead to journalists uncritically reporting pre-packaged information prepared by PR professionals working for scientific institutions (Bauer & Gregory, 2007; Gopfert, 2007). Gopfert (2007) argues that such a development will lead to a distorted public perception of science, a loss of credibility for science journalism and ultimately result in a loss of support for science itself.

Despite these concerns, the increasing importance of PR professionals in the process of science communication cannot be denied and this paper examines the perceptions of PR professionals working in New Zealand scientific institutions on science journalism. In particular, their perceptions on the standard of science journalism and the journalist/scientist relationship are examined. These individuals give a unique perspective on the trend in science journalism in New Zealand and on the interaction between journalists, scientists and the scientific institutions they work for.

Method

Semi-structured interviews were conducted with nine science communication advisers. The participants included six advisers representing six of the eight Crown Research Institutes (CRIs). CRIs were established in New Zealand “as Government-owned businesses with a scientific purpose. Each institute is based around a productive sector of the economy or a

grouping of natural resources” (Ministry of Research, Science and Technology, 2008). Of the final three participants, one worked for a university, another for an independent medical research organisation and another was from the Science Media Centre. It is difficult to estimate the percentage of science communication advisers the interviewees represent, as the number of science communication advisers employed in New Zealand is unknown. Rather, interviewees were chosen because they represented a wide cross-section of science organisations.

Participants were identified through organisational websites and then contacted by phone or email. The interviews were conducted either face-to-face or by telephone depending on the availability of the interviewee in question. On average the duration of interviews was 33 minutes with the shortest interview being 19 minutes and the longest interview 59 minutes. The interviews were then transcribed and analysed using the HyperResearch qualitative data analysis package (ResearchWare, n.d.). To preserve the anonymity of the advisers each was given a unique, sequential code of CA1, CA2 etc (CA meaning communication adviser). A cross-case analysis was conducted where the answers to the interview questions were grouped together (Patton, 2002). This analysis yielded a number of consistent themes that are examined below.

Findings

Interviewee experience

The average time a participant had been in their position was four and a half years. The longest serving participant had been in their position for 18 years as both a full and part-time worker. The least experienced participant had only been in their position seven months. All but two participants had worked as journalists or had trained as journalists. The remaining participants had experience in the public relations industry.

Standard of reporting and who wants to be a science journalist?

When asked how their particular organisations were reported participants on the whole felt the reporting was either positive or at least neutral. One participant who had worked for their organisation for 13 years said “I can’t remember a really negative story in my time here” (CA4). However, two organisations did report some bad experiences with the media. One participant highlighted a Broadcasting Standards Authority ruling that upheld a complaint their organisation had made against a New Zealand television network. Another participant felt their organisation was “currently viewed as an organisation you can take pot shots at” (CA3). However, the scientists in this organisation were recognised as leaders in their field and were constantly contacted by journalists for comment (CA3).

While participants felt their organisations were reported well, they were concerned the reporting lacked any in-depth analysis of the issues. Two main reasons were given for this perception: journalist turnover and lack of resources.

Journalist turnover was mentioned as an issue by a number of participants. One participant stated:

[T]he turnover is incredibly high. I make an assumption that journalists don't have any background at all. I remind them that there is a website with the information about who we are and what we do and I always send out the same stuff every single time. It's continually the same basic stuff because journalists turnover so quickly.
(CA1)

It was suggested the reason for this high turnover was due to journalists only working on science rounds until "they get moved off onto a better round" (CA3). It was argued most journalists wanted to become business or political reporters where they could have more input on how issues were reported. Science reporters on the other hand do not get the same opportunities because "they are on shift, they are there sometimes and not there others and they are constantly handing their stories over to others" (CA3). Therefore, in the view of this participant the science round was not attractive to ambitious journalists.

Furthermore, it was argued the science round was very focussed on the environment and "the current slanting of science is all about global environmental issues" (CA3). Journalists working on the science round were often given the title environment/science reporters. The participant learned that these reporters would often "get to run their own show on their green pages. So I have to find stories that are about sustainability or green issues but I don't think all science fits in that category" (CA3). This participant believed it would be difficult for science organisations without an environmental focus to get stories reported. Reiterating this point the participant said, "I would dearly love to do some astronomy communication but I have no idea how that would fit in" (CA3).

This high turnover had disadvantages and advantages for the organisations interviewed. It was considered a disadvantage in terms of participants having to continually brief new journalists and an advantage in terms of the lack of institutional memory among journalists. One participant stated:

[T]here's hardly anyone with any background. There is no depth of knowledge of what we did six months ago let alone two years ago, which is an advantage if you are trying to bury something because they don't remember what someone said six months ago. (CA1)

The lack of analysis and depth in science reporting was also blamed on the increased pressure in newsrooms due to a lack of resources. All participants noted the presence of a few very experienced science journalists in New Zealand. These journalists "know the context to a lot of these science stories and the best science journalism comes from them.

Unfortunately, there has been a hollowing out of these types of people in newsrooms” (CA5). This was reiterated by another participant who said, “newsrooms are under enormous pressure. There are no journalists left out there, they have been stripped out” (CA1). Participants felt the increasing pressures on journalists decreased their “potential for understanding the science and this could mean mistakes were made” (CA2).

Press releases

Participants did not believe this reduction in resources affected the use of press releases by large daily newspapers. It was suggested that journalists in these organisations used press releases “as a starting point to contact me or the researcher directly and build a story from there” (CA2). In contrast, participants found that trade magazines and provincial newspapers were more likely to use press releases without alteration. In instances where newspapers had sourced information from the New Zealand Press Association (NZPA) the press releases were likely to be used verbatim. Participants indicated this manner of using NZPA stories was the norm for all newspapers, whether provincial or metropolitan. Internet news sites also tended to use press releases in a similar manner. The heavy use of press releases by trade magazines, provincial newspapers and internet news sites was explained in terms of the time pressures and lack of resources that these particular outlets faced.

One participant argued that the verbatim use of press releases was “lazy journalism” and said:

I don’t mind if someone takes a quote because they are pushed for time. It shows they trust us to the extent they can just take a quote without talking to the scientists and we don’t see any problem with that. When they construct a story completely out of one of our releases and do not talk to any scientist, that’s when I think they are not really doing their job. We are there to help and supplement what they are doing. We are not there to construct their entire story and for them to put their by-line on it and submit it to their editor as their story. (CA5)

The respondent believed that if journalists were not going to call the scientists concerned, then at least they should include some of their own analysis around the press release rather than just using it verbatim.

Scientist reluctance

The reluctance of scientists to speak to journalists was seen as another major issue for science journalism. The participants suggested a number of reasons for this reluctance. First, a number of scientists wanted to remain anonymous. This was due to either the type of science they conducted or the scientists did not appear to “care about promotion and they don’t care about the media. That’s not their role and they don’t see it as beneficial and to some degree we respect that and we certainly respect any desire for privacy” (CA1).

Scientists were also seen as reluctant due to their fears the media would misrepresent their work. One participant said the prevailing view amongst scientists in their organisation was that science reporting, “was often inaccurate and shallow” (CA6), and this made scientists reluctant to talk to the media. Alternatively, some scientists that had been misquoted or treated badly in the past wanted no further dealings with the media. One participant related an incident saying, “very recently I had one of our very experienced but reticent scientists agreeing to talk to the media but he felt that he was trashed and he said he will never talk to the media again” (CA1). Another participant said the major concern for scientists was that “something quite complex and convoluted would end up in a four or five word heading or sound bite” (CA8). Other participants also reported that scientists had a perception that journalists would misquote or misrepresent their work.

One respondent suggested that some scientists were reluctant to speak to journalists because they considered them unintelligent. This respondent stated, “The typical Kiwi journalist is not numerate. I have been in a newsroom and been the only person who could calculate a percentage” (CA3). This respondent believed that the situation was exacerbated because many journalists did not understand the concept of probability and risk attached to science. Another participant felt that some science was difficult for journalists to understand and was “extremely hard for them to put into laymen’s terms” (CA9). Furthermore, it was suggested this lack of understanding was not entirely the fault of journalists because scientists often overemphasised the uncertainty surrounding their work. One participant stated that senior scientists would often tell others in their organisation “you just keep telling people how much you don’t know. You forget to tell them all the stuff you do know!” (CA3).

Finally, participants suggested that some scientists were reluctant to speak to journalists through fear of being censured or finding themselves subject to expensive lawsuits. In one of the CRIs spoken to there had been a recent case of a scientist being dismissed for consistently breaching their organisation’s media protocol, where all media contact had to be first vetted by senior scientists. The dismissal of this scientist became a highly newsworthy event as the scientist in question had appeared regularly on television speaking about his particular area of science. Another CRI participant stated, “scientists are very aware of the trouble that one scientist got into for speaking his mind . . .” (CA4) and therefore, they were reluctant to talk to journalists. The scientist spoken of had faced a multi-million dollar lawsuit for comments they had made. This issue made scientists in this CRI quite happy to allow their communication team to play a gate-keeping role when it came to media contact.

Despite these issues it was noted by all respondents that some scientists were happy to talk to the media and these scientists were normally very experienced and articulate.

More science communication makes thing better?

Two participants questioned the drive by government and the science community to increase science reporting. One disagreed with the view that “more science stories was [sic]

going to build a great constituency for science or that more science reporting would make any difference in terms of New Zealanders' support for science" (CA1). It was argued that increasing the number of science stories would not attract new audience members who would then become supportive of science. Rather these stories would only be read by those already interested and supportive of science (CA1).

Another participant remarked that the Science Media Centre was very upbeat about the increasing number of science stories being reported and the better profile science was attaining as a result. However, this person doubted whether this trend could continue (CA3). In contrast, the Science Media Centre argued that just increasing the number of science stories was not their aim, stating:

We are not volume driven; the government never said to us we want more science. There is actually a lot of science in the media. The government want a better public understanding of science. Therefore, there needs to be a better quality of science journalism. The government want more science journalism as opposed to science reportage. Therefore, if we can get one really good story on *Close Up*¹ that improves people's understanding of climate change [then] that is worth 20 wire stories that just report a straight scientific development. (CA5)

This appears to indicate a misperception amongst some science communicators about the aims of the Science Media Centre and how they are trying to achieve them. However, participants considered the Centre to be doing a very good job in reporting their respective organisations and lifting the profile of science overall.

These findings illustrate some negative trends for science journalism in New Zealand and for the relationships between some scientists and journalists and these are discussed below.

Discussion

Edelson (1979) described science news as a "ghetto of journalism [where] most of the coverage is done by people other than science writers" (p. 13). This coincides with the observations of the participants in this study, who noted that many of the journalists reporting science were in the job short-term, aspiring to news rounds with greater autonomy in the way issues were reported. Often science was a small part of the reporting these journalists did and they would often be called away to write other stories. While there were some good science journalists who had been in their positions for many years, they were very few and it appeared that their numbers were growing smaller.

In terms of science news this lack of continuity among journalists threatens their ability to fulfil their role as the Fourth Estate or watchdogs of society (Schultz, 1998). As one participant noted, the lack of continuity meant new journalists coming in did not have the background on issues, giving organisations the opportunity, if desired, to hide contentious issues from media and public scrutiny. However, it could be argued that this situation also

¹ *Close Up* is a New Zealand current affairs program broadcast by Television New Zealand.

provides organisations an opportunity to aid these new journalists to write better science stories in the future that could also enhance that organisation's profile. The ability of science organisations to present the best profile to the media and the wider public is enhanced by the time and resource pressures faced by many journalists, especially those working for provincial newspapers and internet-based news sites. Participants also noted that the latter media outlets often repeated their news releases verbatim. It is argued that in so doing, the news media, rather than being watchdogs, simply become a conduit for the public relations strategy of these organisations. These developments appear to illustrate the realisation of the concerns of Gopfert (2007), who suggested that increasing pressures on journalists could result in PR professionals gaining greater control over science news content. While the presence of some dedicated science journalists in larger newspapers goes some way to balance this trend, the number of these journalists was on a downward trend according to those interviewed.

While it is unknown whether the number of specialist science reporters has declined in New Zealand in recent years the trends observed here are in line with previous studies in New Zealand and overseas (see Eide & Ottosen, 1994; Hollings, Lealand, Samson & Tilley 2007; Saari, Gibson & Osler, 1998; Williams & Clifford, 2009). A survey of New Zealand journalists found most participants believed the lack of newsroom resources and increasing pressure to produce more outputs meant they could not perform their watchdog role (Hollings et al., 2007). This trend has also been found in the United Kingdom where "staffing pressures coupled with the demands of multi-platform journalism meant that reporters are under more pressure to simply process pre-packaged sources of news such as those provided by public relations professionals" (Williams & Clifford, 2009, p. 11). These trends could go some way to explain the verbatim reporting of press releases noted by the participants in this study, especially in smaller newspapers where resources are likely to be even more limited.

Another trend that appears to limit the scope of science journalism was the concentration on global environmental issues. Further research has revealed that many New Zealand newspapers do not have science journalists per se but rather science/environment reporters. Williams and Clifford (2009) also found that a number of science reporters in the United Kingdom held multiple briefs "for example, being a science environment correspondent, or a science and medical editor" (p. 25). As one participant suggested, this could limit the type of science reported by the media and given that many of these reporters appeared to gain more autonomy on their "green" pages this trend could become more entrenched.

The scientist/journalist relationship

Participants argued that a number of scientists were reluctant to have contact with the news media and a number of reasons were given for this reluctance.

First, it was argued that a number of scientists feared their work would be trivialised or that they themselves would be misquoted and one participant did relate a case where this had occurred to a scientist in their organisation. This participant also noted that their

organisation had taken a complaint to the Broadcasting Standards Authority about a story that had been aired by a New Zealand television network. These findings are not new, with a number of writers noting that journalistic inaccuracy is often used as a reason for scientists not engaging with the media (Flatow, O'Leary, Rodgers, Schneider & Trotter, 1986; Hartz & Chappell, 1997; McIlwaine, 2001; Russell, 2010). However, Hansen and Dickinson (1992) found that scientists do not perceive inaccuracy of reporting as a major issue. Interviews with scientists quoted by the media in the New Zealand genetic modification (GM) debate also indicated that on the whole they were happy with the reporting (Ashwell, 2009). These results are mixed with some scientists illustrating strong concerns about journalistic inaccuracies, choosing to avoid media contact, while the participants and previous research indicate that a number of other New Zealand scientists do not regard inaccuracy as a problem and happily engage with the media.

Participants also suggested some scientists did not engage with the media, because they did not regard it as part of their job, or were not interested in self promotion through the media, while others simply wanted to retain their privacy. As noted, these findings may be explained by the "strong peer pressure which exists within the scientific community against becoming a visible scientist, one who communicates about science with media and the public" (Dumanoski, 1999, p. 173). In addition, one participant noted scientists conducting criminal forensic science were particularly keen to maintain their privacy. Research has illustrated that government and university scientists are more likely to be news sources in comparison to industrial scientists (Dunwoody & Ryan, 1985). However, this research did not examine whether there was any difference in the likelihood of scientists being sources based on the type of science they practiced and this may be an area for future research.

Scientists' lack of involvement with the media was also linked to the belief of some scientists that journalists were unable to understand the science and deal with the issues of probability and risk. However, it was also pointed out that scientists were sometimes guilty of emphasising uncertainty too much. These results illustrate that in some cases the interaction between journalists and scientists still remains a clash between two cultures (Peters, 1995). However, the efforts of the Science Media Centre through its briefings and press releases appear to be bridging this gap, with all the participants praising the efforts of the Centre.

Finally, there was evidence to suggest some scientists avoided media contact because of the fears of losing their jobs or facing large lawsuits, which had happened to some of their former colleagues. These fears combined the fact that a large percentage of New Zealand is privately funded (Minsitry of Science, Research & Technology, 2004), illustrates that New Zealand has truly entered the era of PUS Inc (Bauer & Gregory, 2007). This is an era where the commercial imperatives surrounding scientific research, results in scientists being no longer as free to speak about their science as they once were. Rather, PR professionals and those who pay for the research, control the flow of science information that is made available to the media and wider public. This situation is criticised by Hornig-Priest (2001), who speaking about GM, suggested that the privatisation of science research would only lead to further protests and opposition to the fruits of science.

More science stories will be better?

Concerns were raised about the beliefs of some groups that more science stories in the media would increase the constituency of the public interested in and supportive of science. Participants did not believe this strategy would have the desired effect. Indeed previous research has found no evidence to support the idea “that the presence of more science, scientists and science specialists in the media will increase the public understanding of science” (Hargreaves, Lewis & Speers, 2003, p. 67). The Science Media Centre agrees, arguing that their goal is to improve the quality of science stories in order to increase public understanding. However, while increasing the quality of science stories may increase understanding among those already interested and supportive of science, there is no guarantee that it will increase the understanding, engagement or support for science from a wider audience. Indeed research suggests that the type of media from which audience members gain their scientific information will affect whether or not they will hold positive attitudes towards science or whether they will develop reservations about it (Nisbet, Scheufele, Shanahan, Moy, Brossard & Lewenstein, 2002). Therefore, increasing the quality of science stories may have different levels of efficacy depending on the outlet through which it is received. The consideration of other variables, over and above quality, may be needed to achieve the aim of increasing the audience for science stories in New Zealand.

Conclusion

The participants in this study identified a number of issues for the future of science journalism in New Zealand. The most important of these was the threat to the watchdog function of the media caused by the lack of continuity and tenure of science journalists and the lack of resources available to them. While some experienced science journalists do exist, they are few in number. Journalists with little experience of the field are unlikely to critically report on the issues, thereby failing to carry out their watchdog role. The challenge therefore, is to encourage and retain good quality journalists reporting science and give them the necessary resources to produce quality science stories. However, given the current economic position of the press and other mainstream media this may not be possible. Therefore, an alternative model must be found. One such model may be in the form of the Science Media Centre’s Sciblogs. The Centre has now established a number of blogs regularly written by leading New Zealand scientists talking about their particular area of expertise and these have quite a strong following. However, will a wider audience be interested in engaging with these types of initiatives or does another strategy need to be developed?

These types of initiatives might be limited in their scopes, as there still remain a number of scientists reluctant to interact with the media, despite the efforts of the Science Media Centre to alleviate this. Current research by the Ministry of Science, Research and Technology MoRST into the view of scientists on their communication with the wider public may shed light on how this situation can be altered. However, the continued privatisation of

research may threaten the success of these endeavours. As previously illustrated, the increasing trend towards privately funded research is already impinging on the willingness of scientists and/or their organisations to speak to the media.

The question also remains as to whether more or better quality science journalism will increase the public understanding of science. This question is the subject for further research focussing on the requirements of the audience and their use of the media to gain and understand science.

Finally, this paper only reports one part of a larger study that involves interviews with scientists, science journalists, editors and communication/PR advisers and a content analysis of science stories in leading New Zealand newspapers. While this research may shed light on the type of science news we can read and on how such news is constructed, it will still need to be supported by analysis of the audience. What does the audience want with regard to science news? How and where do they access it and why? In combining these various strands of research and those being conducted by MoRST, we will be in a better position to answer the long-standing question of how the quality of science news can be improved.

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